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(21) International Application Number: PCT/US99/07230 (22) International Filing Date: 1 April 1999 (01.04.99) (30) Priority Data: 60/080,708 3 April 1998 (03.04.98) US (71) Applicant (for all designated States except US): E.I. DU PONT DE NEMOURS AND COMPANY [US/US]; 1007 Market Street, Wilmington, DE 19898 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): MANOGUE, William, H. [US/US]; 224 Beverly Road, Newark, DE 19711 (US). NAPPA, Mario, Joseph [US/US]; 3 Oakridge Court, Newark, DE 19711 (US). SIEVERT, Allen, Capron [US/US]; 215 Rhett Lane, Elkton, MD 21921 (US). (74) Agent: HEISER, David, E.; E.I. du Pont de Nemours and Company, Legal/Patent Records Center, 1007 Market Street, Wilmington, DE 19898 (US).		(81) Designated States: AE, AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: PROCESS FOR THE PRODUCTION OF FLUOROCARBONS (57) Abstract <p>A process is disclosed for the manufacture of hexafluoropropylene and 1,1,1,2,3,3,3-heptafluoropropane. The process involves: (a) feeding 1,1,2-trichloro-3,3,3-trifluoropropene-1, HF and Cl₂ to a first reaction zone containing a catalyst comprising trivalent chromium and operating at a temperature of at least 250 °C, but not more than about 325 °C, to produce a reactor effluent comprising C₃Cl₃F₅, C₃Cl₂F₆, CF₃CClFCF₃, HCl and HF. The reactor effluent of (a) may be distilled to produce (i) a low boiling stream including HCl; (ii) a reactant stream including an azeotrope of 2-chloro-1,1,1,2,3,3,3-heptafluoropropane and HF and (iii) a high-boiling stream including C₃Cl₂F₆ and C₃Cl₃F₅. The 2-chloro-1,1,1,2,3,3,3-heptafluoropropane of reactant stream (ii) may be reacted with hydrogen in the presence of a catalyst to produce a mixture of hexafluoropropylene and 1,1,1,2,3,3,3-heptafluoropropane, while the C₃Cl₂F₆ and C₃Cl₃F₅ of high boiling stream (iii) may be fed along with HF to a second reaction zone containing a catalyst comprising trivalent chromium and operating at a temperature of at least about 375 °C to produce a reaction product comprising CF₃CClFCF₃ and HF. The reactor product from the second reaction zone may be recycled to the first reaction zone.</p>		

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